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10/763,391	01/26/2004	Muncharu Nakabayashi	62758-068	4589

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Washington, DC 20005-3096

EXAMINER

ALL HATTEM

ART UNIT	PAPER NUMBER
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3692

MAIL DATE	DELIVERY MODE
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05/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/763,391

Applicant(s)

NAKABAYASHI ET AL.

Examiner

HATEM ALI

Art Unit

3692

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **2/5/09** has been entered.

2. The following is a **Non-Final Action** in response to a communication received on **2/05/2009**.

Acknowledgement

3. Claim **status**:

- ❖ **Claims** amended : **1- 4, 7, 9-11** and **13-16**
- ❖ As such **claims** pending: **1-20**

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7-9 and **16-20** are rejected under 35 U.S.C. **101**. Based on Supreme Court precedent and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to a machine or (2) transform

underlying subject matter (such as an article or materials) to a different state or thing. In re **Bilski** et al, 88 USPQ 2d 1385 CAFC (2008); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876).

An example of a method claim that would not qualify as a statutory process would be a claim that recited purely mental steps. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Here, applicant's method steps fail the first prong of the new Federal Circuit decision since they are not tied to a machine and can be performed without the use of a particular machine. Thus, **claims 7-9** and **16-20** are non-statutory since they may be performed within the human mind.

The mere recitation of the machine fails to make the claim statutory under 35 USC 101. Insignificant extra-solution activity will not transform an unpatentable principle into a patentable process (see John Love, Deputy Commissioner for Patent Examination Policy, memorandum Jan. 7, 2009).

Note the Board of Patent Appeals Informative Opinion Ex parte Langemyer et al http://iplaw.bna.com/iplw/5000/split_display.adp?fedfid=10988734&vname=ippqcases2&wsn=500826000&searchid=6198805&doctypeid=1&type=court&mode=doc&split=0&scm=5000&pg=0

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Kawakami*** (4,769,532) in view of ***Zoladz*** (5,855,268).

As per claim 1, *Kawakami* discloses a sheet handling apparatus comprising:

a detection part (**Figs.2 & 3** and **col.4**, lines 22-30; via a **CPU** [central processing unit] for controlling a bill [sheet] discrimination device and the like to which **# 1- 5** including light emission controlling circuit) that detects a characteristic of a sheet transported by the transport path;

an amplifier that amplifies a signal obtained from the detection part (**col.4**, line 50-57, and **Fig.2 # 10** [line 53])

an A/D converter that converts an analog signal amplified in the amplifier to a digital signal (**col.4**, line 52; via an **A/D** converter **11** with amplifier **10** and also in **Fig.2**);

determining means (**CPU**) that determine the truth of the sheet (**true or false** [unidentified/undefined]) by use of the signal having been produced as a result of A/D conversion by the A/D converter in reference to predetermined conditions (**col.4**, lines 22-57 and **Figs 2 and 3 # 1**; via a **CPU #1** for controlling a bill discrimination device and [**col.5**, line 17- reference values; lines 26-27-resultant value L_c is stored in the **CPU 1** as a **threshold**- implied reference to pre-condition]); and

a control part (**Fig.2**; via **CPU** inherently **programmed**) that changes signal read accuracy of the detection part according to a result of determining the truth of the sheet in the determining means, wherein, if the sheet is determined as unidentified as a result of determining the truth of the sheet in the determining means, the control part changes a setting of conditions so that an accuracy to determine the sheet becomes higher when the sheet was determined as unidentified, and transports through the transport path an unidentified sheet determined as unidentified to the detection part and performs the truth determination again under the changed conditions in the determining means (**CPU**- as **programmed** and inherently setting condition it does all operations to determine true or false under changed condition [**unidentified/undefined etc. whatever set**]).

Kawakami fails explicitly to disclose a transport path that transports sheet to or from a deposit/drawal part.

However, **Zoladz** being in the same field of invention discloses a transport path that transports sheet to or from a deposit/drawal part (**Fig.2A** and **col.3**, lines 20-57; via

transport system **1** the bill [sheet] entryway **8** leads to a bill passageway **9** [transport path]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosures mentioned by **Kawakami** to include the features as taught by **Zoladz** in order to facilitate the complete process of movement to and from deposit/drawal part, validation and denomination of paper currency [bill or sheet].

As per claims 2 and 3, Kawakami discloses the control part changes an amplification factor of the amplifier as the setting conditions corresponding to denominations (col.6, lines 24-65, and **Figs.5 & 6**; via **CPU**, amplifier **10** and amplification factor [implied CPU-programmed , inherently setting conditions]).

As per claims 4 and 5, Kawakami discloses that the control part changes and sets conditions to narrow a range between an input upper limit value and an input lower limit value of the A/D converter as the setting conditions (col.6, lines 50-58; via function of **A/D converter 11**. and **CPU** with control part [implied setting conditions]).

As per claim 6, Kawakami discloses that the sheets determined as unidentified by the determining means include sheets in which characteristics indispensable to true bills were detected but which exceed a permissible error (col.6, line 23; via **CPU 1**[Central Processing Unit] for controlling a bill discrimination device and the like).

As per claim 7, *Kawakami* discloses a method of determining bills for improving capacity of determining of bills in a bill handling apparatus (see **Abstract**; via an automatic cash receiving and dispensing machine), comprising the steps of:

detecting characteristics of the bill by a detection part (**Fig.2 # 5**);

processing a signal from the detection part (**Fig.5**; via **5, 6, 10, 11, 12 to CPU 1**) and

determining a denomination and truth of the bill in a determining part of the bill handling apparatus (**col.4**, lines 23*, **Fig.2**; via **CPU** for controlling bill discrimination device);

as a result of the truth determination, classifying the bill into one of at least four types of bills to process the bill, the four types of bills being true bills determined as true, false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined (**Figs 5-10**; **col.4**, lines 23-65 and **CPU**, inherently capable of changing first mode and second mode per intended programs for truth determination);

if the bill is determined as an unidentified bill, changing an amplification factor or resolution of the detection part so as to increase accuracy to determine the bill; and

after the change, transporting the unidentified bill through the transport path to the determining part again to detect the characteristics of the bill to perform the truth determination under changed conditions of the amplification factor or resolution of the detection part in the determining part (**Figs 5-10 & col.4**, lines 23-65 and **CPU**, with inherent means capability to perform as programmed).

Kawakami fails explicitly to disclose transportating through a transport path a bill to be deposited to a determining part of the bill handling apparatus to perform determination,

However, **Zoladz** being in the same field of invention discloses transporting through a transport path a bill to be deposited to a determining part of the bill handling apparatus to perform determination (**Fig.2A** and **col.3**, lines 20-57; via transport system **1** the bill [sheet] entryway **8** leads to a bill passageway **9** [transport path] to the validator [see **Fig.3**]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosures mentioned by **Kawakami** to include the features as taught by **Zoladz** in order to facilitate the complete process of movement, validation and denomination of paper currency [bill or sheet].

Kawakami fails explicitly again to disclose the false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined.

However, **Zoladz** being in the same field of invention discloses the false bills lacking characteristics indispensable to true bills, unidentified bills having characteristics indispensable to true bills but exceeding a permissible error thereof, and undefined bills the denominations of which cannot be determined (**col.4**, lines 1- 39; via generate the

test signals to validate and denominate currency; **Fig.3** and the microcontroller # **32** performs all processing of signals to validate and denominate an inserted banknote)

Therefore, it would be obvious to an ordinary skill in the art at the time of invention was made to modify the disclosure of **Kawakami** to include the features mentioned as taught by **Zoladz** to facilitate in order to use banknote (bill) for validation including denomination with vending or slot machines.

As per claim 8, Kawakami discloses that the changing step changes an input range of the A/D converter (**col. 6**, lines 50-60).

As per claim 9, Kawakami discloses that, as a result of the truth determination, an undefined bill is returned to a user, a bill determined as an unidentified bill and a bill determined as a false bill in another determination are stored in the machine, and a bill determined as an undefined bill in yet another determination is returned to the user (**CPU** is capable as programmed and determines the bill, true or false [unidentified / undefined] and transport accordingly).

As per claim 10, Kawakami, discloses that a sheet handling apparatus, comprising:

a determining part (**col.4**, lines 22-30; via controlling circuit # **5**) that determines the truth of sheets transported by a transport module;

a control part (**Fig.2**. with control circuit # **5**) that changes accuracy to determine the sheets in the determining part.

Kawakami fails explicitly to disclose a transport path that transports sheet to or from a deposit/drawal part.

However, **Zoladz** being in the same field of invention discloses a transport path that transports sheet to or from a deposit/drawal part (**Fig.2A** and **col.3**, lines 20-57; via transport system **1** the bill [sheet] entryway **8** leads to a bill passageway **9** [transport path]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosures mentioned by **Kawakami** to include the features as taught by **Zoladz** in order to facilitate the complete process of movement to and from deposit/drawal part, validation and denomination of paper currency [bill or sheet].

Kawakami fails explicitly to disclose a stocking part (**storage**) that temporary holds sheets determined as unidentified in the determining part, wherein, if the sheets are determined as unidentified in the determining part, the control part changes a determination condition so as to increase the determination accuracy of the determining part, and transports through the transport path the sheets determined as unidentified from the stacking part to the determining part again to determine the truth of the sheets under a changed condition of the accuracy in the determining part.

However, **Zoladz** being in the same field of invention discloses that temporary holds sheets determined as unidentified in the determining part, wherein, if the sheets are determined as unidentified in the determining part, the control part changes a determination condition so as to increase the determination accuracy of the determining

part, and transports through the transport lath the sheets determined as unidentified from the stacking part to the determining part again to determine the truth of the sheets under a changed condition of the accuracy in the determining part (**Fig.2A**; via transport system **1**, passageway **9** [transport path] and **col.3**, lines 10-60; via a currency validator ... to encounter a plurality of optical and other sensors ... to a stacker ... for **storage in a currency cashbox**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the features mentioned by **Kawakami** to include the disclosures as taught by **Zoladz** in order to facilitate through transport system **1** to handle paper (sheet) currency as quickly as possible through validation process.

As per claim 11, Kawakami discloses the determining part comprises:

a detector that detects a characteristic of a sheet, an amplifier that amplifies a signal obtained from the detector, an A/D converter that converts an analog signal amplified in the amplifier to a digital signal; and determining means that determine the truth of the sheets by use of a signal produced as a result of A/D conversion by the A/D converter (**Fig. 2**; via # **5, 6, 9, 10** and **11**),

wherein, if the sheet is determined as unidentified in the determining part, the control part changes signal read accuracy of the detector so as to increase a capability to determine the sheet, and transports the sheet determined as unidentified to the detector to again determine the truth of the sheet in the determining part (**Fig.2** and **CPU # 1**).

Claims 12 and 13 are rejected as per reasons set forth in claim **10**.

Claim 14 is rejected as per the reasons set forth in claim 2.

Claim 15 is rejected as per the reasons set forth in claim 4

7. **Claims 16-20** are rejected under 35 U.S.C. 103 (a) as being unpatentable over **Kawakami** (4,769,532) and **Zoladz** (5,855,268) in views of **Negishi** (6,588,570).

As per claim 16, Kawakami discloses a method of determining bills in a bill handling apparatus, comprising:

a first determination mode in which denominations and truth of the bills are determined with first determination accuracy in the determining part (**Figs.5, 6 and 7; via** determination steps);

setting second determination accuracy as higher bill determination accuracy than the first determination accuracy if a bill is determined as an unidentified bill as a result of determination in the first determination mode (**Figs.6; via S11** adjusting mode to **S21** for completion of mode "Normal" or "Repeat of Process" as second mode or more form reference level; see **col.7 & 8**);

a second determination mode in which a bill determined as unidentified as a result of the first determination is determined again in the same determining part set at the second determination accuracy without being handled by a customer (**Figs.5-10; via CPU** is doing steps as programmed); and

processing bills determined as unidentified or false bills as a result of determination in the second determination mode separately from other bills (**Figs.5-10; via CPU** is doing as programmed).

Kawakami fails explicitly to disclose transporting bill to be deposited through a transport path to a determining part of the bill handling apparatus to perform determination,

However, **Zoladz** being in the same field of invention discloses transporting bills to be deposited through a transport path to a determining part of the bill handling apparatus to perform determination (**Fig.2A** and **col.3**, lines 20-57; via transport system 1 the bill [sheet] entryway 8 leads to a bill passageway 9 [transport path] to the validator [see **Fig.3**]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the disclosures mentioned by **Kawakami** to include the features as taught by **Zoladz** in order to facilitate the complete process of movement, validation and denomination of paper currency [bill or sheet].

Kawakami and **Zoladz** fail to disclose a second determination mode in which a bill determined as unidentified as a result of the first determination is determined again in the same determining part set at the second determination accuracy without being handled by a customer.

However, **Negishi** being in the same field of invention discloses a second determination mode in which a bill determined as unidentified as a result of the first determination is determined again in the same determining part set at the second determination accuracy without being handled by a customer (**col.4**, lines 22+; via the bill validator 1 ... insertion start state [implied first mode of determination] ... if the bill 2

is normally inserted, the controller **21** ...[**col.5-6**] and **col.7**, line 40; via bill validator **41** ... as bill validating means or bill insertion detecting/validating means ...).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the features mentioned by **Kawakami** and **Zoladz** to include the disclosure as taught by **Negishi** to facilitate the validation of bills [second mode] in state overlapped/abnormal object/counterfeit/unidentified - not accurately judged to further correctly detection stage by comparator, controller and validation unit to final stage.

As per claim 17, Kawakami discloses that the first determination mode includes the steps of:

detecting the characteristics of the bills by a detector; and processing a signal from the detector to determine the truth of the bills (**Figs.5, 6 and 7**; via determination steps);

As per claim 18, Kawakami discloses the setting accuracy so as to increase the amplification factor or resolution of the detector for detecting the characteristics of the bills in the second determination mode (**Figs.5-10**; via **S11** adjusting mode to **S21** for completion of mode "Normal" or "Repeat of Process" as second mode or more form reference level; also see **col.7 & 8**).

As per claim 19, Kawakami discloses the step of storing information about sheets determined as false bills or unidentified bills in the second determination mode in

a storing part in association with information capable of identifying users of the bills (see **Figs.5-10**; via CPU inherently doing steps as programmed).

As per claim 20, Kawakami discloses further the step of having users confirm an inputted amount if a bill is determined as an unidentified bill as a result of determining the bill in the first determination mode (**Figs.5-10**; via CPU inherently doing as programmed).

. Response to Arguments

8. **Applicant's** arguments with respect to **claims 1-20** have been considered but are moot in view of the new ground(s) of rejection.

1) In response to **Applicant's** Remarks, page 7, related to method claim rejections of USC **101**, the amendments are not properly done. So, method claim rejections remain rejected

2) In response to **Applicant's** Remarks, page 8, para 4, line 3 that "but not the **actual** invention the applicant applied for" was a **typo**. It is now deleted, replaced with "complete" and respectfully noted again that as we understand, references are to be considered as a whole and as they teach and suggest the concept of the invention, but not the complete (actual) invention the Applicant applied for.

3) In response to **Applicant's** Remark (page 9, 3rd para to page 10, 1st para) that "According to ... the amplification factor or resolution of a detector to increase the accuracy of determining the truth of a detected sheet ... as required by claim 1". The **Examiner** does not agree and refers to Kawakami(**col.4**, line 52; via an **A/D** converter

11 with amplifier 10 and also in Fig.2 – A/D amplifier is electronic not optical); and (CPU that determines the truth of the sheet true or false [unidentified/undefined]) by use of the signal having been produced as a result of A/D conversion by the A/D converter in reference to predetermined conditions (col.4, lines 22-57 and Figs 2 and 3 # 1; via a CPU #1 for controlling a bill discrimination device and [col.5, line 17-reference values; lines 26-27-resultant value L_c is stored in the CPU 1 as a threshold- implied reference to pre-condition]) and also CPU- as programmed and inherently setting condition it does all operations to determine true or false under changed condition [unidentified/undefined etc. whatever set]).

4) In response to Applicant's Remark (page 12, para 3 to page 13, para 1) that "Independent claim 16 is directed to a method of determining bill ... Thus it is clear that Nagishi fails to teach or suggest the limitation of claim 16 of setting a second determination accuracy ... first determination mode", The examiner respectfully does not agree and refers *Negishi* and *kawakami* both in col.4, lines 46+ and col.4, lines 22+ respectively, where the case of two bill being overlapped or undesired paper such as thick paper could be invalid or unidentified [not valid] to be handled by validator without customer and CPU [implied programmed] will take care of repeated determination, if required and set in the program. As it is also understood, all references are to be considered as a whole as they teach/suggest the concept of invention, but not the complete invention applied for.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HATEM ALI whose telephone number is (571)270-3021. The examiner can normally be reached on 8.00 to 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Abdi can be reached on 571-272-6702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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